

L 63960-65

ACCESSION NR: AP5016172

It was found that Zeeman splitting at  $4130 \text{ \AA}$  results in circularly polarized components. Study of the Zeeman effect for this line shows that the spin-lattice relaxation time is very short for Zeeman sublevels of the excited state (less than  $7 \cdot 10^{-7}$  seconds). The use of  $\text{CaF}_2\text{-Eu}^{2+}$  for optical detection of paramagnetic resonance in the excited state is discussed. "In conclusion, the authors consider it their duty to thank Ye. F. Gross and P. P. Feofilov for interest in the work and also V. P. Makarov and G. Bir for consultation." Orig. art. has: 4 figures, 4 formulas, and 4 tables. [14]

ASSOCIATION: none

SUBMITTED: 07May64

ENCL: 00

SUB CODE: SSOP

NO REF SOV: 007

OTHER: 009

ATD. PRESS: 4071

Card 2/2

L 12000-66 EWT(1)

ACC NR: AP5022860

SOURCE CODE: UR/0051/65/019/003/0365/0377

AUTHOR: Zakharchenya, B. P.; Rusanov, I. B.

ORG: none

TITLE: Group-theoretical analysis of the Zeeman effect in the optical spectra of cubic crystals

SOURCE: Optika i spektroskopiya, v. 19, no. 3, 1965, 365-377

TOPIC TAGS: group theory, Zeeman effect, cubic crystal, optic spectrum, crystal lattice symmetry, dipole moment, exciton, light polarization

ABSTRACT: The authors consider the general relationships governing the Zeeman effect for electric dipole and magnetic dipole lines under the condition that the symmetry of the intercrystalline field is characterized by the  $O_h$  group. The selection rules for the Zeeman transitions in the optical spectra of the cubic crystals are found, on the basis of group theory, for the crystal orientations in the magnetic field  $H_0 \parallel [001]$ ,  $H_0 \parallel [111]$ , or  $H_0 \parallel [110]$ . It is shown that in the majority of cases the relative intensities of the Zeeman components can be found knowing only the basis functions of the appropriate irreducible representations, so that only the transformation properties of the electric or magnetic dipole moment operator and the transformation properties of the wave functions describing the appropriate Zeeman sublevels are necessary. The rules obtained in this manner can be applied successfully to the interpretation of the Zeeman components in the spectra of ions located in a purely cubic

Card 1/2

UDC: 539.184.28 : 548.0

L 12000-66

ACC NR: AP5022860

12

field and excitons in cubic crystals, if the exciton transitions occur at points of the exciton bands with  $\mathbf{k} = \mathbf{0}$ . It is shown that the most interesting case in the study of the Zeeman effect is that in which  $H_0 \parallel [110]$ , for when the direction of observation for this orientation is parallel to the field the Zeeman components can in many cases have not only circular but elliptical and even linear polarization. The results are found to be in satisfactory agreement with experimental data, but are applicable only when the distances between the Zeeman sublevels are less than the original splitting of the electronic states in the crystal. They can be extended to obtain the rules for the Zeeman effect of quadrupole transitions in cubic crystals. Authors thank A. A. Kaplyanskiy for valuable advice, Ye. F. Gross for interest in the work, and A. G. S. Zhilich and V. P. Makarov for helpful consultations. Orig. art. has: 6 formulas and 5 tables.

SUB CODE: 20/ SUMB DATE: 18Jun64/ ORIG REF: 008/ OTH REF: 012

A.U.  
Card 2/2

ZAKHARCHENYA, B.P.; RUSANOV, I.B.; RYSKIN, A.Ya.

Zeeman effect of a resonance line ( $4130 \text{ \AA}$ ) in the spectrum of  
the  $\text{CaF}_2\text{-Eu}^{2+}$  crystal. Opt. i spektr. 18 no.6:999-1010 Je '65.  
(MIRA 18:12)

L 45565-65 EWA(k)/FBD/EMG(r) / EWA(m)-2/EWA(h) Pm-4/Pm-7/1437  
 EWP(t)/EEC(b)-2/EWP(k)/EWP(b)/EWA(m)-2/EWA(h) Pm-4/Pm-7/1437  
 Peb/Pi-4/Pi-4 ACCESSION NR: SCTB/IJP(c) WG/JD/JW/JG/ UR/0181/65/007/005/1428/1437  
 AP5012554

AUTHOR: Zakharchenya, B. P.; Varfolomeyev, A. V.; Rusanov, I. B.

TITLE: Zeeman splitting of the emission line at a wavelength of 2.36 micron in  
 the spectrum of a calcium fluoride crystal doped with doubly ionized dysprosium

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1428-1435

TOPIC TAGS: laser, fluorite<sup>21</sup> laser, Zeeman effect, fluorite dysprosium laser,  
 cw laser

ABSTRACT: The Zeeman splitting of the emission line at  $\lambda = 2.36 \mu$  in the spectrum  
 of the CaF<sub>2</sub>: Dy<sup>2+</sup> system was experimentally investigated. It is noted that con-  
 tinuous laser action in CaF<sub>2</sub>: Dy<sup>2+</sup> occurs on this line. Zeeman splitting was ob-  
 served at three different orientations of the crystal in the magnetic field  
 $Ho/(Ho)[001]$ ,  $Ho/[111]$ , and  $Ho/[110]$ . The intensity of the field varied between  
 10 and 30 koe. The results obtained were verified by theoretical calculations  
 based on the group theory. The line investigated was attributed to the magnetic  
 dipole transition  $(^5I_7)^3R_4^{(2)} + (^5I_8)^3R_5^{(2)}$ . The splitting was explained on the  
 assumption that the triply degenerate levels  $^3R_5$  and  $^3R_4$  were split into three  
 equal or almost equal components. The Zeeman transitions for the line are present<sup>21</sup>

AM/  
Card 1/2

L 23167-66 EWT(m)/I/EIP(t) LIP(c) JD/JG  
ACC NR: AP6003759 SOURCE CODE: UR/0181/66/008/001/0041/0044

AUTHOR: Zakharchenya, B. P.; Rusanov, I. B.

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR, Leningrad (Fiziko-  
tekhnicheskiy institut AN SSSR)

TITLE: Experimental proof of the existence of purely cubic centers in the  $\text{CaF}_2\text{-Eu}^{3+}$  crystal

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 41-44

TOPIC TAGS: Zeeman effect, absorption spectrum, line splitting, fluorite, activated crystal, europium, cubic crystal, absorption line, magnetic field

ABSTRACT: The authors investigated the Zeeman effect on the absorption lines in the spectra of  $\text{CaF}_2\text{-Eu}^{3+}$  crystals, grown in the P. N. Lebedev Physics Institute by a method described elsewhere (FTT v. 7, 267, 1965). The absorption spectra of such crystals showed at 77K two groups of lines, one of which was in the region of  $\lambda$  5,250 Å and the other near  $\lambda$  4,000 Å. The long-wave group consisted of eight narrow lines and was connected with the  $^7\text{F}_0 \rightarrow ^5\text{D}_1$  transition. On cooling the crystal to 4.2K, the spectrum remained unchanged. The group at 4,000 Å also consisted of a number of lines. The effect of a magnetic field on the long-wave group was analyzed, and the splitting of the  $\lambda_0$  5,253.4 Å line into three Zeeman components was

Card 1/2

L 23167-66

ACC NR: AP6003759

3

observed. The Zeeman splitting was found to be proportional to the magnetic field. The central component coincided with the initial line, and was polarized with  $E \perp H_0$ . The two extreme components were polarized with  $E \parallel H_0$ . A correlation is established between the transverse and longitudinal Zeeman components. An analysis of the Zeeman effect shows that one of the lines belongs to the center on a purely cubic field of symmetry  $O_h$ . A line (5,904.7 Å) connected with the optical transition  $^5D_0 + ^7F_1$  in a cubic center was also observed in the spectrum. Authors thank V. V. Osiko, Yu. K. Voron'ko, and A. A. Kaminskiy for a useful discussion. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 24Jun65/ ORIG REF: 009/ OTH REF: 005

Card 2/2

ACC NR: AP7005850

SOURCE CODE: UR/0181/66/008/012/3602/3605

AUTHOR: Zakharchenya, B. P.; Rusanov, I. B.; Takhistova, I. I.

ORG: Physicotechnical Institute im. A. F. Ioffe, AN SSSR, Leningrad (Fiziko-tehnicheskiy institut AN SSSR)

TITLE: Magneto optics of "tetragonal centers" in  $\text{CaF}_2:\text{Eu}^{3+}$  crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3602-3605

TOPIC TAGS: laser material, calcium fluoride, activated crystal, europium, magneto-optics, luminescence center, Zeeman effect, magnetic dipole, optic transition, ~~impurity center, lattice defect~~

ABSTRACT: This is a continuation of earlier work (FTT v. 8, 41, 1966) where experimental proof was presented for the existence of centers of purely cubic symmetry in  $\text{CaF}_2:\text{Eu}^{3+}$  crystals. In the present article, centers of various symmetries (cubic, tetragonal, rhombic), which occur following a heterovalent substitution of the  $\text{Eu}^{3+}$  ion for the cation, are related to the Zeeman splitting of the emission and absorption lines in the observed spectrum of  $\text{CaF}_2:\text{Eu}^{3+}$ . The tests were made on crystals grown at the Physics Institute im. P. N. Lebedev AN SSSR by a method described elsewhere (FTT v. 7, 267, 1965). No cubic lines were observed in the groups of emission of those lines connected with the transition between the  $\text{Eu}^{3+}$  states. The "tetragonal" spectrum was separated but its Zeeman components did not agree well with the theoretical approximations. No trigonal centers were observed in a crystal grown in a fluorine atmosphere, thus indicating again that these centers are connected exclusively with oxygen

Card 1/2

UDC: none

ACC NR: AP7005850

ions in the lattice. The experimentally observed laws governing the Zeeman splitting of the "tetragonal lines" are described. A theoretical analysis of these laws makes it possible to relate the indicated lines to the magnetic-dipole transitions ( $^1\Gamma_1 \rightarrow ^2T_5$ ) in the  $C_{4v}$  field. A study of the concentration dependence of the line intensity leads to the hypothesis that the excess charges at centers of different symmetry can be compensated by the same lattice defect with two negative charges. Further study of the model wherein one defect "serves" two  $TR^{3+}$  ions calls for further experiments. Orig. art. has: 3 figures and 2 formulas.

[WA-14] [02]

SUB CODE: 20/ SUBM DATE: 28May66/ ORIG REF: 004/ OTH REF: 001

Card 2/2

KHOROSH, V.A.; BOYKO, M.Ye.; KOSSOVSKIY, L.D.; SHVYREV, M.S.; KOPYTIN, P.I.;  
RUSANOV, I.I.; Prinimali uchastiye: KOVTUNOVICH, V.A.; KUKSHKINA, M.Ye.;  
RYAZANOVA, A.P.; VISKUNOVA, T.Ya.; MUKHINA, M.A.

Determining the optimal conditions for blooming mill operations. Stal'  
23 no.4:338-340 Ap '63. (MIRA 16:4)

1. Chelyabinskiy metallurgicheskiy zavod.  
(Rolling mills)

RUSANOV, I.I., inzh.; KOVUNOVICH, V.A., inzh.; TANEYEV, Yu.A., inzh.

Stepping-up the main drive of the 1,100 blooming mill by means  
of installing an additional motor on the same shaft with the main  
motor. Stal' 24 no.11:1016-1019 N '64.

(MIRA 18:1)

1. Chelyabinskij metallurgicheskiy zavod.

RUSANOV, Il

RUSANOV, Il.

Diagnosis and therapy of dental focal infections. Stomatologija,  
Sofia no.3:188-189 1954.

1. Zubolekar pri bolnitsata gr. Oriakhovo. Glaven lekar: T.Baev.  
(FOCAL INFECTION,  
dent., diag. & ther.)

RUSANOV, I. K.

Moscow. The Kazakh SSR at the All-Union Agricultural Exhibition, 1939. Moskva  
Goskinoizdat, 1940. 84 p. (43-33671 rev.)

I. Kazakhstan. I. Rusanov, I.K. II. Hecht, Semen Grigor'evich. III. Abol'nikov,  
S.IA. ed.

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5

RUSANOV, K.

Year 1980, science. Znan. sila 36 no.10:47-50 O '61.  
(MIRA 16:12)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5"

PICHENYUK, Ya.D.; RUSANOV, K.S.; KHARITONOV, M.I.; SHPITAL'NIKOV, A.G.

Roofing support by means of bolts. TSvet. met. 26 no.2:11-19  
Mr-Ap '53. (MLRA 10:9)  
(Mine timbering)

BURTSEV, L.I.; BUD'KO, A.V.; GOLOMALZIN, A.I.; RUSANOV, K.S.

Mining systems with ore delivery by blasting. Gor.zhur. no.6:  
59-60 Je '56. (MLRA 9:8)  
(Kazakhstan--Mining engineering)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5

RUSANOV, K.S.; BURTSEV, L.I.; BUD'KO, A.V.

Improvement of mine development systems in ore mines. Gorzhur.  
no.8:16-19 Ag '55. (MIRA 8:8)  
(Mining engineering)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5"

RUSANOV, Kh.

"Productive Tasks of Stockbreeding Farms." p. 10,  
(KOOPERATIVNO ZEMEDELIE, Vol. 10, No. 1, Jan. 1955, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4  
No. 5, May 1955, Uncl.

AUTHOR: Rusanov, L.N., Engineer SOV-98-58-2-16/21

TITLE: From the Experience of Foreign Engineering (Iz opyta zarubezhnay tekhniki). The Strengthening of Tunnel and Open Mine Working by Anchors (Krepleniye ankerami tunnel'nykh i otkrytykh gornykh vyrabotok)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1958, Nr 2, pp 52-57 (USSR)

ABSTRACT: During recent years the method of strengthening the surface layer of mine workings perimeter by means of anchors is practised abroad on an increasing scale, especially in the drifting of tunnels. The author explains in detail this method which was applied in the USSR during the pre-war period when building the Volkhov, the Dneprovskaya and the Niva GES III. There are 7 sets of diagrams, 3 graphs, 1 photo, and 17 references, 1 of which is Soviet, 6 English, 5 Swiss and 5 German.

1. Tunnels--Construction    2. Mining--Equipment

Card 1/1

L 320L5-66 EXT(m)/T/EXP(t)/ETI IJP(c) JD/HW/JG

ACC NR: AP6013337

SOURCE CODE: UR/0363/66/002/004/0589/0591

30

28

B

AUTHOR: Guseva, L. N.; Rusanova, L. N.

ORG: Institute of Metallurgy im. A.A. Baykov (Institut metallurgii)

TITLE: Intermediate phases in the chromium-niobium system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 589-591

TOPIC TAGS: niobium compound, chromium compound

ABSTRACT: Chromium-niobium alloys were studied in the cast state and after annealing for 129 hr at 1400C, with particular emphasis on the region of composition NbCr<sub>2</sub>. X-ray structural analysis was performed on powder samples in RKU cameras. The presence of a polymorphic transformation in the compound NbCr<sub>2</sub> was confirmed. The high-temperature modification has an MgZn<sub>2</sub>-type hexagonal structure with  $a = 4.93$ ,  $c = 8.07$ , and the low-temperature modification has an MgCu<sub>2</sub>-type structure with  $a = 6.96$ . NbCr<sub>2</sub> at 1400C undergoes a phase transition with the formation of the  $\eta$  phase with a face-centered cubic lattice and a lattice constant of 11.46 Å. It is postulated that the  $\eta$  phase belongs to the O<sub>h</sub><sup>7</sup> space group and has an NiTi<sub>2</sub>-type structure. The effect of

Card 1/2

UDC 546.3-19-76-882

L 32045-66

ACC NR: AP6013337

third components, nickel and vanadium, on the structure of the compound NbCr<sub>2</sub> was investigated: nickel and vanadium stabilize the high-and low-temperature modification of this compound respectively. The attendant transformation of the hexagonal to the cubic structure is thought to be associated with an increase in the electron concentration of the alloy. Orig. art. has: 1 table.

SUB CODE: 11 / SUBM DATE: 13Jul65 / ORIG REF: 004 / OTH REF: 003

Card 2/2 20

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5

RUSANOV, L.N., inzh.

Anchoring in tunnels and open mine workings. Gidr.stroi. 27  
no.2:52-57 F '58. (MIRA 11:2)  
(Mining engineering)  
(Tunnels)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5"

RUSANOV, L.N., inzhener.

Sluices and locks. Gidr.strel. 25 no.5:59-63 Je '56. (MIRA 9:9)  
(Sluices) (Locks (Hydraulic engineering))

KOREL', V.G.; RUSANOV, M.G.

Metasomatism of magnesium in contact iron ore deposits of Western  
Siberia. Geol. i geofiz. no.7:91-104 '60. (MIRA 13:9)

1. Sibirskiy metallurgicheskiy institut.  
(Siberia, Western--Magnesium)

315)

PLATE I BOOK EXPORTATION

507/2172

**Additional note SSSR.** Metodicheskaya vremennaya posobyayushaya konsulyatsiya po shchelkam  
geologicheskoye metodometria Altay-sayanoy gornoj oblasti, tom. 1, kniga 1.  
Geologiya (iron ore deposits of the Altay-Sayan Mountain Region, Vol. 1,  
Book 1: Geology) Moscow, 1958, 350 p. (Series: Zhelzaznaya  
metodometria SSSR). Karta alip inserted. 2,500 copies printed.

**Additional Sponsor/Agencies:** Akademika nauchno-tekhnicheskogo otdeleniya, USSR  
Gosudarstvennaya planovaya komissiya, Glavnoye upravleniye nachalo-i-zashchitnoy  
sluzhby i proyektnoy organizatsii, Institut Giprovorod, MGU, Ministrstvo  
gospodarki i obnaruzheniya resursov, Zapovednaya laboratoriya, Naukodobrodaty spravivayushchaya  
USSR, Razvedochnaya organizatsiya geologicheskoye upravlyayushchaya, dzhelzaznaya geologicheskaya instytut.

**Name of the author:** P. Ye. Shchedrov, and G.A. Borodov; Rep. Ed. of Series: I.P.  
Borodov, A.M. Tsvetkov, A.S. Kalugin, N.M. Makarov, G.I. Popov, M.L.  
Borodovskiy, P. Ye. Shchedrov, S.A. Naumov-Vernin (Deceased), G.A. Solntsev,  
S.G. Sverdlin, Academician, V.B. Khlebnikov, N.A. Chizhikov, and I.S. Shapiro  
Ed. of Publishing House: T.O. Endkhers, Tech. Ed.: Z.P. Rabin.

**PURPOSE:** This book is intended for structural, exploration and mining geologists,  
for mineralogists and mineralogists, and industrial planners.

**CONTENTS:** This work purports to be the first attempt to review and summarize all  
the material that has been published on the iron-ore deposits of the Altay-  
Sayanaya Oblast' during the last 20 years. This area is the most important  
of becoming one of the most important iron-ore bases in the Soviet Union.  
This book discusses the economic aspects of the geography and geology of the  
individual deposits, presents a qualitative and quantitative (as of January 1,  
1957) analysis of ore reserves, and evaluates the prospects and possibilities  
of further development of the Altay-Sayanaya iron-ore base. The genetic  
characterization of iron-ore mineralization of the area is described. Extensive  
information on the geology of individual deposits, complexes, and regions is  
provided, and a general genetic description of one mineralization in the Altay  
Sayanaya region is given. There is a historical account of the exploration  
and development of the region, and of the development of concepts on the genesis  
of mineralization in the area. The following subjects are discussed in  
preparation and writing of this volume: G.I. Popov, A.S. Kalin, A.Kh. Salikh.

V.I. Klyuchevsky, O.G. Kline, and V.A. Valerukhov or the West Siberian Branch of  
the AI RSGS; T.D. Shchegoleva of the Permanent Interdepartmental Committee on Iron  
A.S. Kalugin, A.S. Malikh, N.A. Garanin, Th. A. Semyonov, M.R. Belovitrov,  
V.B. Borchevich, G.P. Dyuro, N.F. Nitopov, and K.G. Bakovich of the West Siberian  
Geological Administration; V.I. Medvedkov, A.J. Al'yanov, and P. Ye. Pan of the  
Transsibtransgorsk Geological Administration; M.G. Rukhinov, K.A. Yurchik, Th. V.  
Pridobedtsev, O.Ye. Savitskaya, and A.G. Semenov of the West Siberian  
Geological Survey; Chernomorskiye Trust, P.A. Lyapenko T.I. Kostylev, T.V.  
Kamenskaya, A.I. Melekhovich and R. Piter of the Siberian Geophysical Trust;  
A.I. Bond of the Voznesensk, A.S. Mitropolskiy or the Mining Exploration, V. V. Leshch  
of the Mining Administration of the Kuznetsk Metallurgical Combine, G.S. Shilov  
of the Tomsk Polytechnic Institute, I.V. Berdov of the Siberian Metallurgical Institute,  
and V.G. Koval' of the Siberian Metallurgical Institute. There are 271 references, all Soviet,

Card 319

POSPELOV, G.L., starshiy nauchnyy sotrudnik; LAPIN, S.S.; BELOUS, N.Kh.; KLYAROVSKIY, V.M.; KINE, O.G.; VAKHRUSHEV, V.A.; SHAPIRO, I.S., starshiy nauchnyy sotrudnik; KALUGIN, A.S.; MUKHIN, A.S.; GARNETS, N.A.; SPEYT, Yu.A.; SELIVESTROVA, M.I.; RUTKEVICH, V.G.; BYKOV, G.P.; NIKONOV, N.I.; SAKOVICH, K.G.; MEDVEDKOV, V.I.; ALADYSHKIN, A.S.; PAN, F.Ya.; RUSANOV, M.G.; YAZBUTIS, E.A.; ROZHDESTVENSKIY, Yu.V.; SAVITSKIY, G.Ye.; PHODANCHUK, A.D.; LYSENKO, P.A.; LEBEDEV, T.I.; KAMENSKAYA, T.Ya.; MASLENNIKOV, A.I.; PIPAR, R.; DODIN, A.L.; MITROPOL'SKIY, A.S.; LUKIN, V.A.; ZIMIN, S.S.; KOREL', V.G.; DERBIKOV, I.V.; BARDIN, I.P., akademik, nauchnyy red.; GORBACHEV, T.F., nauchnyy red.; YEROFEEV, N.A., nauchnyy red.; NEKRASOV, N.N., nauchnyy red.; SKOBNIKOV, M.L., nauchnyy red.; SMIRNOV-VERIN, S.S., nauchnyy red. [deceased]; STRUMILIN, S.G., akademik, nauchnyy red.; KHLEBNIKOV, V.B., nauchnyy red.; CHINAKAL, N.A., nauchnyy red.; SLEDZYUK, P.Ye., red.toma; SOKOLOV, G.A., red.toma; BOLDYREV, G.P., red.; VOGMAN, D.A., red.; KASATKIN, P.F., red.; KUDASHEVA, I.G., red.izd-va; KUZ'MIN, I.F., tekhn.red.

[Iron-ore deposits of the Altai-Sayan region] Zhelezorudnye mestorozhdeniya Altai-Saianskoi gornoj oblasti. Vol.1. Book 1. [Geology]

(Continued on next card)

POSPEROV, G.L.---(Continued) Card 2.

Geologiya. Otvetstvennyi red. I.P. Bardin. Moskva. 1958. 330 p.  
(MIRA 12:2)

1. Akademiya nauk SSSR. Mezhdunodomstvennaya postoyannaya komissiya po zhelezu. 2. Postoyannaya mezhdunodomstvennaya komissiya po zhelezu Akademii nauk SSSR (for Pospelov, Shapiro, Sokolov). 3. Zapadno-Sibirskiy filial Akademii nauk SSSR (for Vakhrushev, Pospelov.) 4. Zapadno-Sibirskoye geologicheskoye upravleniye (for Sakovich). 5. Krasnoyarskoye geologicheskoye upravleniye (for Pan). 6. Zapadno-Sibirskiy geologo-razvedochnyy trest Chermetrazvedka (for Prodanchuk). 7. Sibirskiy geofizicheskiy trest (for Pipar). 8. Vsesoyuznyy geologicheskiy nauchno-issledovatel'skiy institut (for Dodin). 9. Gornaya ekspeditsiya (for Mitropol'skiy). 10. Gornoye upravleniye Kuznetskogo metallurg.kombinata (for Lukin). 11. Tomskiy politekhnicheskiy institut (for Zimin). 12. Sibirskiy metallurg.institut (for Korel'). 13. Trest Sibneftegeofizika (for Derbikov). (Altai Mountains--Iron ores) (Sayan Mountains--Iron ores)

KALUGIN, A.S., inzh.; MUKHIN, A.S., inzh.; BUDANOV, M.G., kand. geologo-miner. nauk; TUNIN, Ya.B., inzh.

Iron ore base for the Kuznetsk and West Siberian metallurgical combines. Izv. vys. ucheb. zav.; chern. met. no. 4:3-10 Ap '58.  
(MIRA 11:6)

1. Zapadno-Sibirskoye geologicheskoye upravleniye i Kuznetskiy metallurgicheskiy kombinat.  
(Siberia, Western--Iron ores)

**The Kaligut molybdenum-tungsten deposits.** M. S. Baklavov and M. G. Rusanov. *Vestnik Zapovedno-Sibirskogo Geol. Upr.* 1939, No. 1, 1-17; Khim. Referat. Zhur. 1940, No. 1, 34.—The deposits are situated in the southeastern tip of the W-Mo zone of the ore formation in the Altai mountains. The mineralization is connected with the granite-porphyrries of the Upper Permian age which break through the more ancient effusive quartz-porphyrries. The formation consists of 2 series of veins: the higher-temp. veins which are embedded directly in the granites and the lower-temp., embedded in the contact zone of the granite massif. In their genesis both series belong to the pneumatolytic-hydrothermal minerals. In the first case there is observed a sharp change of the sedimentary formations which consists of greisenization and impregnation with molybdenite and the sulfides of Fe and Cu (more rarely with wolframite), while in the case of the lower-temp. veins (situated beyond the limits of the granite massif) almost no changes of the sedimentary formations are observed and the formation of ores is represented by huebnerite (in contrast to ferberite in the higher-temp. veins). The deposition of ores took place during the period of violent tectonic processes. The deposition of minerals took place in 4 distinct phases: sepn. of quartz, feldspar, scheelite, beryl and fluorite during the 1st phase (pneumatolytic); deposition of greenish mica-schists, F and Li (?), molybdenite, wolframite and, possibly, magnetite during the 2nd phase; deposition of sulfides, 2nd-generation molybdenite and, to a smaller extent, bi-muthite and chalcopyrite and, probably, of apatite during the 3rd phase (hydrothermal); transformation of the primary minerals into W, Mo and Bi oxides, limonite, Cu carbonates and Mn oxides during the 4th phase. W. R. Henn

## AMERICAN METALLURGICAL LITERATURE CLASSIFIED

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L 6991-66 EPA(s)-2/EEC(k)-2/ENT(1) IJP(s)

ACC NR: AP5017329

SOURCE CODE: UR/0181/65/007/007/2226/2229

AUTHOR: Pokatilov, Ye. P.; Cheban, A. G.; Rusanov, M. M.

56

ORG: Kishinev State University (Kishinevskiy gosudarstvenny universitet)

B

TITLE: Thermal ionization of miniature traps in cubic piezoelectrics

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 2226-2229

TOPIC TAGS: piezoelectric crystal, piezoelectric property, thermal ionization,  
Hamiltonian equation, electron capture, electron transition

ABSTRACT: The piezoelectric behavior of semiconductors of type  $A_{III}B_V$  (e.g. InSb, GaAs), are related to processes of ionization of minute traps and electron capture. The Hamiltonian of electron interactions with oscillations and defects in piezoelectric crystals, obtained by a canonical transformation, is shown to be

$$H = \epsilon(P) + H_{ex} + V(R).$$

Here,  $\epsilon(P)$  is the electron energy;  $H_{ex}$  is the energy of interaction with acoustical oscillations of the lattice; and  $V(R)$  is the defect interaction energy. Equations are given for each of the above terms, based on approximate calculations using Shroedinger equation. Wave functions are also presented for discrete spectra; and from these the overall probability for zone transitions from the  $1s$ -state to  $2p$  and  $2s$ -levels is

Card 1/2

L 6991-66

ACC NR: AP5017329

calculated. Based on the values for  $P_{i,j}$ --the probability of a non-radiating transition from  $i$  to  $j$ , and for  $W_{2p,1s}$ --the probability of the spontaneous optical transition  $2p$  to  $1s$ , formulas are derived for  $\sigma_{cap}$ --effective capture diameter and  $\sigma_{dis}$ --effective dispersion diameter. Numerical data is presented for InSb for the probabilities  $P_{i,j}$ ;  $P_{i0n}$  (a parameter incorporating  $P_{i,j}$  and  $W_{2p,1s}$ );  $\sigma_{cap}$ ;  $\sigma_{dis}$ ; and  $\sigma_0$  (effective capture diameter for the degeneration of the excited levels  $2p$ ,  $2s$ ) as a function of deformation and piezoelectric behavior at  $T = 5^{\circ}\text{K}$  and  $20^{\circ}\text{K}$ . Orig. art. has: 1 table.

SUB CODE: SS/ SUBM DATE: 17Nov64/ ORIG REF: 001/ OTH REF: 002

Card 2/2 rds

RUSANOV, Mikhail Nikanorovich; TAL'MAN, I.M., red.; SHEVCHENKO, F.Ya.,  
tekhn. red.

"Acute diseases of the stomach and intestine] Ostrye zabol-  
vaniia zheludka i kishechnika. Leningrad, Medgiz, 1961. 53 p.  
(MIRA 15:1)

(DIGESTIVE ORGANS—DISEASES)

BANAYTIS, S.L.; RUSANOV, M.N.

Surgical shock and measures of its prevention according to the  
Pavlovian theory. Khirurgiia, Moskva no. 8:12-18 Aug. 1952.  
(CLML 23:3)

1. Professor for Banaytis; Docent for Rusanov.

KUZNETSOV, Viktor Alekseyevich; RUSANOV, M.N., red.; KHARASH, G.A.,  
tekhn.red.

[Method for the surgical treatment of prolapse of the rectum  
in adults] Metodika operativnogo lecheniya vypadeniya priamoi  
kishki u vzroslykh. [Leningrad] Gos.izd-vo med.lit-ry Medgiz,  
Leningr. otd-nie, 1960. 125 p.

(MIRA 14:5)

(RECTUM--SURGERY)

1. BANAYTIS, Prof.; RUSANOV, M. N., Docent.
2. USSR (600)
4. Shock
7. Surgical shock and means of preventing it according to I. P. Pavlov's theory.  
Khirurgija. No. 8, 1952.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KRANTSFEL'D, Ya.L., inzh.; LOSIYEVSKAYA, I.K., inzh.; RUSANOV, M.Ye., inzh.

Tolerated flexures in carrying structures with suspension conveying  
systems. Prom. stroi. 43 no.9:44-45 '65. (MIRA 18:9)

ROZHKO, Nikolay Nikołajevich; RUSANOV, N., red.; BEYSHENOV, A.,  
tekhn. red.

[Intrafactory specialization in the machinery industry]  
Vnutrizavodskaya spetsializatsiya v mashinostroenii.  
Frunze, Kirgizgosizdat, 1962. 28 p. (MIRA 17:1)

RUSANOV, N.D.; ALEXEYEV, M.V., inzh., rukovoditel' diplomnogo proyekta

Fire hazards in the production of isopropylbenzene. Poch. bezop.  
no.3:16-20 '64. (MIRA 18:5)

RUSANOV, N.F.

Intergeneric hybrids of Catalpa and Chilopsis. Biul. Glav.  
bot. sada no.55:44-47 '64. (MIRA 18:11)

1. Botanicheskiy sad AN Uzbekskoy SSR, Tashkent.

RUSANOV, N.F.

Catalpa in the Botanical Garden of the Academy of Sciences of  
the Uzbek S.S.R. Uzb. biol. zhur. 8 no.3:37-41 '64. (MIRA 17:12)

1. Botanicheskiy sad AN Uzbekskoy SSR.

RUSANOV, N.G., deputat

React vigorously to shortcomings. Gor.khoz.Msk. 36 no.6:39-40  
Je '62. (MIRA 15:8)

1. Predsedatel' Postoyannoy komissii kommunal'no-bytovogo  
obsluzhivaniya Proletarskogo rayonnogo soveta Moskvy.  
(Moscow—Municipal services)

BORISENKO, Konstantin Stepanovich; BORUMENSKIY, Aleksandr Grigor'yevich,  
dots.; DULIN, Vladimir Sergeyevich, dotsent; NUSANOV, Nikolay  
Mikhaylovich, dotsent; PLOTNIKOV, K.S., otv. red.; D'YAKOVA,  
G.B., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.; BOLDYREVA,  
Z.A., tekhn. red.

[Mining mechanics] Gornaia mekhanika. [By] K.S. Borisenko i dr. Mo-  
skva, Gosgortekhizdat, 1962. 406 p. (MIRA 15:10)

1. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for  
Borisenko).

(Mining machinery)

RUSANOV, N.M.

PHASE I BOOK EXPLOITATION

SOV/5473

Gornoye delo; entsiklopedicheskiy spravochnik. t. 8: Statsionarnoye elektromekhanicheskoye oborudovaniye. Elektrosnabzheniye shakht (Mining Industry; an Encyclopedic Handbook. v. 8: Stationary Electro-mechanical Equipment. Electric Power Supply to Mines) Moscow, Gosgortekhizdat, 1960. 784 p. Errata slip inserted. 18,500 copies printed.

Chief Ed.: A. M. Terpigorev (Deceased); Members of the Editorial Board: A. I. Baranov, F. A. Barabanov (Deceased), A. A. Boyko, V. K. Buchnev, A. N. Zaytsev; Deputy Chief Eds: I. K. Kit and N. V. Mel'nikov; I. N. Plaksin, N. M. Pokrovskiy, A. A. Skochinskiy (Deceased), A. O. Spivakovskiy, I. K. Stanchenko, A. P. Sudoplatov, A. V. Topchiyev, S. V. Troyanskiy, A. K. Kharchenko, L. D. Shevyakov and M. A. Shchedrin; Editorial Board for this volume: Resp. Ed.: F. A. Barabanov; Deputy Resp. Ed.: Z. M. Melamed; N. A. Arzamasov, G. M. Yelanchik, V. K. Yefremov, B. I. Zasadych, I. M. Zhukov, N. A. Letov, P. P. Nesterov, I. A. Rabinovich, K. I. Skorkin, and V. A. Sumchenko; Authors: G. A.

Card 1/16

Mining Industry (Cont.)

SOV/5473

Babak, Candidate of Technical Sciences, V. D. Belyy, Professor, Doctor of Technical Sciences, K. S. Borisenko, Candidate of Technical Sciences, A. G. Borumenskiy, Candidate of Technical Sciences, I. V. Brusilovskiy, Candidate of Technical Sciences, A. R. Bushel', Candidate of Technical Sciences, V. P. Bukhgol'ts, Engineer, M. N. Vasilevskiy, Candidate of Technical Sciences, A. N. Vas'kovskiy, Engineer, B. N. Vlasenko, Engineer, I. Ya. Gershikov, Engineer, V. G. Geyer, Professor, Doctor of Technical Sciences, A. D. Dimashko, Engineer, V. S. Dulin, Candidate of Technical Sciences, I. L. Lokshin, Engineer, B. M. Melamed, Engineer, Yu. A. Mikheyev, Engineer, V. P. Morozov, Engineer, M. I. Mushkatin, Engineer, V. S. Pak, Academician, I. M. Perskaya, Engineer, N. M. Rusanov, Candidate of Technical Sciences, G. P. Savel'yev, Candidate of Technical Sciences, Ya. M. Smorodinskiy, Candidate of Technical Sciences, K. A. Ushakov, Honored Scientist and Technologist, Professor, Doctor of Technical Sciences, B. M. Furmanov, Engineer, and N. N. Chernavkin, Engineer. Eds.: Ya. M. Drozdov, Engineer, B. I. Zasadych,

Card 2/16

Mining Industry (Cont.)

SOV/5473

Candidate of Technical Sciences, N. S. Karpyshev, Candidate of Technical Sciences, N. A. Letov, Candidate of Technical Sciences, Z. M. Melamed, Candidate of Technical Sciences, Yu. A. Mikheyev, Engineer, V. P. Morozov, Engineer, V. I. Polikovskiy, Professor, Doctor of Technical Sciences, I. A. Rabinovich, Engineer, M. S. Rabinovich, Candidate of Technical Sciences, I. A. Raskin, Engineer, V. S. Tulin, Engineer, S. Ye. Unigovskiy, Engineer, K. A. Ushakov, Honored Scientist and Technologist, Professor, Doctor of Technical Sciences, M. M. Shemakhanov, Candidate of Technical Sciences, P. F. Shishkov, Candidate of Technical Sciences, and V. B. Yablonovskiy, Engineer; Eds. of Publishing House: N. A. Arzamasov and T. I. Rybal'nik; Tech. Ed.: V. L. Prozorovskaya and M. A. Kondrat'yeva.

PURPOSE: This handbook is intended for mining and mechanical engineers as well as for other skilled personnel of the mining industry concerned with the handling and operation of various installations and equipment used in mines.

Card 3 / 16

Mining Industry (Cont.)

SOV/5473

**COVERAGE:** Volume VIII of the mining handbook contains detailed information on mine hoisting installations, machines and equipment, mine ventilation units, duct systems, dewatering facilities, various types of pumps, pump meters, pumping stations, and the automatic remote control of these units. The handbook also describes and explains the operation of the air compression units and compressors. Heat-generating and heat-supply equipment of mines is described, as are the electric power supply systems and other electrical equipment such as transformers, power distribution systems, and grounding devices. Telephone communication and signaling systems used in mines are also treated. No personalities are mentioned. Each part of the handbook is accompanied by references, mostly Soviet.

**TABLE OF CONTENTS [ Abridged ]:**

**PART I. MINE HOISTING UNITS**

Card 4/16-

## Mining Industry (Cont.)

SOV/5473

Ch. I. General Information (Rusanov, N. M., Candidate of Technical Sciences) 11

Ch. II. Hoisting Conveyances (Vlasenko, B. N., Engineer) 14

Ch. III. Hoisting Ropes (Belyy, V. D., Professor, Doctor of Technical Sciences) 46

Ch. IV. Winders and Speed Reducers of Hoisting Machines (Gershikov, I. Ya., and A. D. Dimashko, Engineers) 69

Ch. V. Position of Hoisting Machines Relative to the Mine Shaft (Vasilevskiy, M. N., Candidate of Technical Sciences) 95

Ch. VI. Fundamentals of the Mine Hoisting Installation Theory (Rusanov, N. M.) 99

Card 5/16

CHERNYSHEV, Petr Georgiyevich; FILIMONOV, Semen Yevgen'yevich; RUSANOV,  
Nikolay Vasil'yevich [deceased]; BABKIN, Aleksandr Rodionovich;  
KRISHTAL', L.I., red.; BOBROVA, Ye.N., tekhn.red.

[Estimates, bookkeeping, and technical records in construction  
and track management] Smety, uchet i tekhnicheskaiia otchetnost'  
v stroitel'stve i putevom khoziaistve. Pod obshchel red. P.G.  
Chernysheva. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 235 p.  
(MIRA 12:9)

(Railroads--Accounts, bookkeeping, etc.)

L 52982-65 EWG(j)/EWT(m)/EWA(h)

ACCESSION NR AM5011011

BOOK EXPLOITATION

20  
B+1

S/

Olisov, Boris Aleksandrovich (Major General of the Technical Engineering Service, Doctor of Technical Sciences, Professor); Rusanov, Petr Ivanovich (Engineer Colonel, Doctor of Technical Sciences, Professor); Markov, Leonid Kuz'mich (Colonel, Candidate of Military Sciences, Decent)

Protection from nuclear weapons (Zashchita ot yadernogo oruzhiya), Moscow, Voenizdat M-va obor. SSSR, 1964, 126 p. illus. 80,000 copies printed.

TOPIC TAGS:nuclear defense, nuclear weapon

PURPOSE AND COVERAGE: This book considers the resources, methods, and basic principles of the organization of nuclear defense. So that the recommended measures would be more relevant, based on the weapons' properties, the beginning of the book contains brief information on nuclear weapons, chiefly their military properties. The book is intended for a broad audience interested in nuclear defense, particularly the armed forces of the USSR.

TABLE OF CONTENTS (abridged):

Introduction -- 3  
Card 1/2

L 52982-65

ACCESSION NR AM5011011

Ch. I. Brief information on nuclear weapons -- 5  
Ch. II. Basic principles of nuclear defense -- 33  
Ch. III. Resources and methods of nuclear defense -- 50  
Ch. IV. Protective properties of the locality and their use in the organization  
of nuclear defense -- 74  
Ch. V. Protection of personnel against radioactive radiation -- 86  
Ch. VI. Nuclear defense in combat -- 117

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LL  
Card 2/2

RUSANOV, P.I.

SEVERUD, Fred, N.; MERRILL, Anthony; SEMENOV, Yu.V. [translator]; D'YAKO-  
NOV, A.I., [translator]; LYUBIMOV, S.A. [translator]; VOLODIN, N.V.,  
[translator]; RUSANOV, P.I., redaktor; PAVLOV, V.S., redaktor; GEL-  
RASIMOV, Ye.S., tekhnicheskiy redaktor

[Protection for people, buildings and equipment from the atomic  
bomb. Translated from the English.] Protivatomnaya zashchita  
liudei, zdani i oborudovaniia. Perevod s angliiskogo IU.V.Seme-  
nova i dr. Moskva, izd-vo inostrannoi lit-ry, 1955. 292 p.

(MIRA 9:3)

(Building, Bombproof) (Atomic bomb--Safety measures)

RUSANOV, P.I., kandidat tekhnicheskikh nauk inzhener-polkovnik, redaktor;  
LEMENOVSKIY, A.S., redaktor; KONOVALOVA, Ye.K., tekhnicheskiy  
redaktor

[Field installations and obstructions for troop positions; a  
concise manual] Polevye sooruzheniya i zagrazhdeniya dlja  
voiskovykh pozitsii; kratkii spravochnik. Moskva, Voen. izd-vo  
M-va obor. SSSR, 1956. 158 p. [Microfilm]

(MLRA 10:6)

(Military field engineering)  
(Obstacles (Military science))

OLISOV, Boris Aleksandrovich, general-mayor inzh.-tekhn. sluzhby,  
doktor tekhn. nauk, prof.[deceased]; RUSANOV, Petr  
Ivanovich, inzh.-polkovnik, doktor tekhn. nauk, prof.;  
MARKOV, Leonid Kuz'mich, polkovnik, kand. voyennykh nauk,  
dots.; CHUGASOV, A.A., polkovnik, red.

[Protection from nuclear weapons] Zashchita ot iadernogo  
oruzhiia. Moskva, Voenizdat, 1964. 126 p. (MIRA 17:12)

RUSANOV, Roza Dmitriyevna; SHERGINA, G., red.

[Weed control in row crop cultivation] Bor'ba s sorniakami  
v propashnoi sisteme zemledeliia. Barnaul, Altaiskoe  
knizhnoe izd-vo, 1963. 77 p. (MIRA 18:2)

SHUR, I.V., prof.; YAKOVLEV, L.A., prof.; KUKHARKOVA, L.L.; FREYDLIN, Ye.M., kand. veterin. nauk; PEROVA, P.V., kand. veterin. nauk; IL'YASHENKO, M.A., kand. veterin. nauk; KRASIL'NIKOV, R.I., starshiy nauchnyy sotrudnik; FITINGOF, S.N.; starshiy nauchnyy sotrudnik; TRUDOLYUBOVA, G.B., mls'hiy nauchnyy sotrudnik; RUSANOV, R.S., mladshiy nauchnyy sotrudnik; KONUSPAYEVA, U.S., mladshiy nauchnyy sotrudnik; MITROFANOVA, V.N., mladshiy nauchnyy sotrudnik; KAPERNAUMOVA, N.P., mladshiy nauchnyy sotrudnik;

Sanitary evaluation of meat from sheep with brucellosis. Veterinariia 38 no.11:60-65 N '61 (MIRA 18:1)

1. Rukovoditel' laboratorii mikrobiologii i veterinarno-sanitarnoy ekspertizy Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti (for Kukharkova).

KUKHARKOVA, L.L., starshiy nauchnyy sotrudnik; FREYDLIN, Ye.M., kand.veter.nauk; PEROVA, P.V.; IL'YASHENKO, M.A.; TRUDOLYUBOVA, G.B., mladshiy nauchnyy sotrudnik; PLOTNIKOV, V.I.; KRASIL'NIKOV, R.I., starshiy nauchnyy sotrudnik; FITINGOV, S.N., starshiy nauchnyy sotrudnik; RUSANOV, R.S., mladshiy nauchnyy sotrudnik; KONUSPAYEVA, U.S., mladshiy nauchnyy sotrudnik; Prinimali uchastiye: YAKOVLEV, L.A., prof.; MITROFANOV, V.N.

Sanitary evaluation of the meat of sheep affected with brucellosis.  
Trudy VNIIMP no.14:87-95 '62. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Kukharkova, Freydlin, Perova, Il'yashenko, Trudolyubova, Plotnikov).
2. Kazakhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti (for Krasil'nikov, Fitingov, Rusanov, Konuspayeva).
3. Saratovskiy zooveterinarnyy institut (for Yakovlev).
4. Saratovskaya oblastnaya veterinarnaya bakteriologicheskaya laboratoriya (for Mitrofanov).

(Meat inspection) (Brucellosis in sheep)

RUSANOV, R. S., KONUSPAYEVA, U. S., MITROFANOV, V. N., KAPERNAUJOVA, N. P.,  
TRUDOLYUBOVA, G. B.,<sup>1</sup> SHUR, I. V., YAKOVLEV, L. A.,<sup>2</sup> KUKHARSKOVA, E. L.,<sup>3</sup>  
FREYDIN, E. M., PEROVA, P. V., IL'YASHENKO, M. A.,<sup>4</sup> KRASIL'NIKOV, R. I.,  
FITINGOF, S. N.,<sup>5</sup> (1 Junior Scientific Workers), (2 Professors), (3 Director of  
the Laboratory of Microbiology and Veterinary Sanitary Inspection of VNIIIMP/All-  
Union Scientific Research Institute of the Meat Industry), (4 Candidates of  
Veterinary Sciences,) and (5 Senior Scientific Workers.)

"Sanitary Appraisal of Mutton from Sheep Infected by Brucellosis."

Veterinariya vol. 38., no. 11., November 1961., p. 60

RUSANOV, Rozin Tod., inzh.; PETROV, Iordan, tekhn.; IVANOV, Khristo

Staining of bright veneers by pulverization (grease gun) at the  
State Industrial Enterprise "Pobeda" of Turnovo. Durvomebel prom  
5 no.1:14-19 Ja-F '62.

ZHELYABIN, A.; TRIGUB, N.; RUSANOV, S.

Striving for the title of the enterprise of communist labor. Workers  
of the Bolshevo Mixed Feed Plant. Workers of the Orenburg Sack  
Repairing Shop. Muk.-elev. prom. 29 no.12:3-6 D '63.

(MIRA 17:3)

1. Moskovskoye upravleniye khleboproduktov (for Zhelyabin).
2. Glavnnyy inzh. Bolshevikogo kombikormovogo zavoda (for Trigub).
3. Orenburgskoye oblastnoye upravleniye khleboproduktov (for  
Rusanov).

RUSANOV, S., inzh. (Orenburg)

Fastening of rubber strips in roller-board machines. Muk.-elev. prom.  
28 no.6:28 Je '62. (MIRA 15:7)  
(Grain milling machinery)

HUSANOV, S.A.

[Theory and practice of the surgical nurse's work; manual for surgical nurse]  
Teoriia i praktika raboty operatsionnoi sestry; posobie dlja operatsionnykh  
sester. Moskva, Medgiz, 1952. 189 p.  
(MLRA 6:7)  
(Nurses and nursing)

RUSANOV, S.A.

[Work of nurses in surgery; a manual for surgical nurses] Rabota  
operatsionnoi sestry; posobie dlia operatsionnykh sester. Izd.  
2-e, ispr. i dop. Moskva, Medgiz, 1956. 196 p. (MIRA 9:11)  
(NURSES AND NURSING)

RUSANOV, S.A.

[First aid for wounds, burns and concussions; instructions for soldiers and sergeants] Pervaya pomoshch' pri ranakh, ozhogakh i kantuziiakh; nauchno-populiarnyi ocherk dlia soldat i serzhantov. Moskva, Voennoe izd-vo ministerstva oborony SSSR, 1957.  
47 p.

(MIRA 11:2)

(FIRST AID IN ILLNESS AND INJURY)

RUDNOV, S.A.

Primary suture of a wound in combined radiation injuries; review of experimental data. Ekater.khir. 2 no.3:55-59 My-Je '57. (KIL 10:10)  
(WOUNDS AND INJURIES. exper.  
eff. of x-rays on healing)  
(ROENTGEN RAYS, eff.  
on healing of exper. wds.)

USSR/Human and Animal Physiology - Blood.

T-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31620

Author : Bagdasarov, A.A., Vinchnevskiy, A.A., Rusanov, S.A.

Inst : -

Title : On the Classification and Designation of Modern Blood Substitutes.

Orig Pub : Vojen.-med. zh., 1957, No 6, 20-22.

Abstract : No abstract.

Card 1/1

- 36 -

RUSANOV, Sergey Andreyevich

[Burns and frostbite; a manual for nurses and physicians' aides]  
Ozhogi i otmrozhneniya; posobie dlja meditsinskikh sester i  
fel'dsherov. Moskva, Medgiz, 1958. 82 p. (MIRA 12:4)  
(BURNS AND SCALDS) (FROSTBITE)

SUKHININ, P.L., prof.; RUSANOV, S.A., prof.; GULYAYEV, G.V., doktor;  
BOLDINSKIY, I.I.. doktor; VILYAVIN, G.D., prof.; ZHOROV, I.S.,  
prof.; LIPSKIY, doktor; GOL'DBERG, F.I., doktor; ZHOROV, I.S.. prof.;  
VOVCHOK, Ye.V., doktor; MARTYNOV, A.T., doktor; GROZDOV, D.M., prof.;  
KOTOV, I.A., doktor; SKATIN, L.I., doktor; PIKOVSKIY D.L., doktor,  
dotsent; SMIRNOVA, Ye.S., doktor; SMOL'YANNIKOV, A.V., prof.;  
UKHANOVA, N.V., doktor; PETROV, B.A., prof.

Discussions at the session. Trudy Inst. im. N.V. Sklif. 9:  
278-303 '63. (MIRA 18:6)

1. I gorodskaya bol'nitsa imeni Lenina, Saratov (for Skatin).
2. Kafedra gospital'noy khirurgii lechebnogo fakul'teta  
Gor'kovskogo meditsinskogo instituta (for Pikovskiy).
3. Gosudarstvennyy onkologicheskiy institut imeni Gertsena,  
Moskva (for Smirnova).

PIROGOV, Nikolay Ivanovich [deceased]; GESELEVICH, A.M., prof.; ZAVALISHIN, N.I., prof., retsentent; RUSANOV, S.A., prof., retsentent; SEMEKA, S.A., general-major med. sluzhby, red. toma; RUFANOV, I.G., otv. red.; BAKULEV, A.N., zam. otv. red.; MAKSIMENKOV, A.N., zam. otv. red.; PETROV, B.D., zam. otv. red.; VISHNEVSKIY, A.M., red.; DAVYDOVSKIY, I.V., red.; KORNEYEV, V.M., red.; KOCHERGIN, I.G., red.; KROTKOV, F.G., red.; BEL'CHIKOVA, Yu.S., tekhn. red.

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(MIRA 15:7)

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VISHNEVSKIY, Aleksandr Aleksandrovich; SHRAYBER, Mikhail Izraylevich;  
RUSANOV, S.A., red.; KUZ'MINA, N.S., tekhn. red.

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(SURGERY, MILITARY)

PIROGOV, Nikolay Ivanovich (1810-1881); AKODUS, Ya.I., dots.; GESELEVICH, A.M., prof., retsentent toma; KOCHERGIN, I.G., retsentent toma; SEMEKA, S.A., dots., general-major meditsinskoy sluzhby, red. toma; RUSANOV, S.A., prof., red. toma; RUFANOV, I.G., otv. red.; BAKULEV, A.N., zamestitel' otv. red.; MAKSIMENKOV, A.N., zamestitel' otv. red.; PETROV, B.D., zamestitel' otv. red.; VISHNEVSKIY, A.A., red.; DAVYDOVSKIY, I.V., red.; KORNEYEV, V.M., red.; KROTkov, F.G., red.; BEL'CHIKOVA, Yu.S., tekhn. red.

[Collection of works in eight volumes] Sobranie sochinenii v vos'mi tomakh. Moskva, Gos. izd-vo med. lit-ry. Vol.6.[Fundamentals of general field surgery] Nachala obshchei vchenno-polevoi khirurgii. pt.2.[(1866) Sevastopol letters, 1850-1855] (1866) Sevastopol'skie pis'ma, 1850-1855. 1961. 466 p. (MIRA 15:2)

1. Chlen-korrespondent Akademii meditsinskikh nauk  
(for Kochergin).

(Surgery, Military) (Pirogov, Nikolai Ivanovich, 1810-1881)

PIROGOV, Nikolay Ivanovich; AKODUS, Ya.I., dotsent; KOCHERGIN, I.G., retsenzent toma; SMIRNOV, Ye.I., retsenzent toma; RUFANOV, I.G., otv. red.; BAKULEV, A.N., zam. otv. red.; MAKSIMENKOV, A.N., zam. otv. red.; PETROV, B.D., zam. otv. red.; VISHNEVSKIY, A.A., red.; GESELEVICH, A.M., red.; DAVYDOVSKIY, I.V., red.; KORNEYEV, V.M., red.; KOCHERGIN, I.G., red.; KROTKOV, F.G., red.; SEMKKA, S.A., general-major med.sluziby,dots.red. toma; RUSANOV, S.A., prof.red.toma; BEL'CHIKOVA, Yu.S., tekhn. red.

[Collected works in eight volumes] Sobranie sochinenii v vos'mi tomakh. Moskva, Gos.izd-vo med.lit-ry. Vol.5. [Principles of general military field surgery] Nachala obshchei voenno-polevoi khirurgii. Pt.1. [Sevastopol letters] Sevastopol'skie pis'ma. (MIRA 15:1) 1961. 638 p.

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Kochergin). 2. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Smirnov).

(SURGERY, MILITARY)  
(CRIMEAN WAR, 1853-1856—MEDICAL AND SANITARY AFFAIRS)

KURUSHIN, F. M.; RUSANOV, S. G.

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Mechanization of care of forest stock. F. M. Kurushin, S. G. Rusanov. Les. khoz. 5, No. 7, 1952.

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1952

RUSANOV, S. G.

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TIPY LESNYKH KULTUR DLYA RAVNINNYKH LEsov YEVROPEYSKOY CHasti SSSR (TYPES OF WOOD CULTIVATED FOR THE LOWLAND FORESTS OF THE EUROPEAN SECTION OF THE USSR, BY) Y. D. GODNEV I S. G. RUSANOV. MOSKVA, GOSLESBUMIZDAT, 1956. 32 p. ILLUS., DIAGR., MAP, TABLES.

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RUSANOV, Sergey Andreyevich; DMITRIYEVA,V.S., redaktor; ROMANOVA,Z.A.,  
tekhnicheskij redaktor

[What a nurse in surgical wards should know] Chto dolzhna znat'  
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lit-ry, 1955. 51 p. (MLRA 9:2)  
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GODNEV, Ye.D.; RUSANOV, Sergey Gavrilovich

[Types of trees for forests in the flat lands of European Russia] Tipy lesnykh kul'tur dlia ravninnykh lesov evropeiskoi chasti SSSR. Moskva, Goslesbumizdat, 1956. 32 p. (MLRA 10:4)  
(Forests and forestry)

KURUSHIN, Faust Mikhaylovich; RUSANOV, Sergey Gavrilovich; FEDOROV, P.F.,  
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(Forests and forestry--Equipment and supplies)

RUSANOV, V.

Organizing the work of the navigating officer on the ship.  
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1. Glavnnyy shturman Upravleniya passazhirskogo flota Chernomorskogo  
parokhodstva.

RUSANOV, V., kapitan dal'nego plavaniya, assistent

Storm warning signals should be simplified. Mor.flot.22  
no.12:26-27 D '62. (MIRA 15:12)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.  
(Signals and signaling) (Weather signals)

RUSAOV, V., kapitan dal'nego plavaniya, assistent

Simplify the signals indicating the movement of craft in the road-  
stead. Mor. flot 25 no.3:20-21 Mr '65.

(MIRA 18:4)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.

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YAKUBOVSKIY, N., inzh.; RUSANOV, V., inzh.

Jig for the assembly of wall slabs in the large blocks. Stroi. truboprov.  
(MIRA 15:12)  
7 no.11:24-25 N '62.  
(Building—Technological innovations)

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"APPROVED FOR RELEASE: 08/25/2000

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RUSANOV, Vladimir Aleksandrovich

RUSANOV, Vladimir Aleksandrovich. Vladimir Aleksandrovich Rusanov. Stat'i, lektsii, pis'ma. Moskva, Izd-vo Glavsevmorputi, 1945. 427 p.

DLC: Unclass.

CLU CSt-H MH NIC NN NNC

SO: LC, Soviet Geography, Part I, 1951, Uncl.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001446110018-5"

RUSANOV, Vladimir Aleksandrovich.

Vozmozhno li srochnoe sudokhodstvo mezhdu Arkhangel'skom i Sibir'iu cherez Ledovityi okean. [On the possibilities of navigation between Archangel and Siberia by the Arctic ocean]. (His Stat'i, lektsii, pis'ma. Moskva, Izd-vo Glavsevmorputi, 1945, p. 64-70).

DLC: Slavic unclass.

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SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,  
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RUSANOV, Vladimir Aleksandrovich

K voprosu o Severom morskoy puti v Sibiri. [On the question of the Northern Sea Route to Siberia]. (His Stat'i, lektsii, pis'ma. Moskva, Izdvo Glavsevmorputi, 1945, p. 71-91).  
DLC:Slavic unclass.

CLU CSt-H MH NIC NN NNC

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RUSANOV, V. D.

RUSANOV, V. D.: "Investigation of the effectiveness of injection  
into a betatron." Acad Sci USSR. Physics Inst imeni P. N.  
Lebedev. Moscow, 1956. (Dissertation for the Degree of Candidate  
in Physicomathematical Sciences).

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Rusanov, V.D.

LOGUNOV, V.N.; OVCHINNIKOV, Ye.P.; RUSANOV, V.D.

Experimental investigation of injection efficiency in the betatron.  
Atom.energ. 2 no.6:525-532 Je '57. (MIREA 10:7)  
(Particle accelerators)

RUSANOV, V.D.

PA - 3571

AUTHOR:

LOGUNOV, V.N., OVCHINNIKOV, I.E.P., RUSANOV, V.D.

TITLE:

Dependence of Continuous Radiation Intensity in Betatron on In-  
jection Parameters. (Zavisimost' intensivnosti tormoznogo  
 $\gamma$ -izlucheniya betatrona ot osnovnykh parametrov inzhektsii,  
Russian)

PERIODICAL:

Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 5, pp 1135-1142 (U.S.S.R.)

ABSTRACT:

This paper aims at explaining the influence exercised by the impulse form at the injector on the capture of electrons on the occasion of the modification of the various injection parameters. The analysis of the obtained curves  $I_{\text{output}} = f(i_{\text{em}})$  and  $I_{\text{output}} = f(d)$

shows that no uniform mode of operation warranting capture at all working conditions of the betatron exists. The first curve shows the dependence of intensity on the amount of the current emitted from the injector into the chamber in the case of a given amplitude of the injection impulse.  $d$  denotes the distance between the filament of the injector and the present orbit of the maximum radius possible. In the case of low amperages of the injector a non-collective process takes place at the expense of an adiabatic modification of the magnetic field. Within the range of working currents a collective capturing process exists which essentially determines the efficacy of the injectors within this domain. The occurrence of this

Card 1/2

RUSANOV, V.D.

PA - 3572

AUTHOR: LOGUNOV, V.N., OVCHINNIKOV, YE.P., RUSANOV, V.D.,  
SEMENOV, S.S.

TITLE: Nonstationary Circulating Current by Electron Injection in Betatron.  
(Nestatsionarnyy tsirkuliruyushchiy tok pri inzheksii elektronov  
v betatron, Russian)

PERIODICAL: Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 5, pp 1143-1148 (U.S.S.R.)

ABSTRACT:

The experiments were carried out in a 30 MeV synchrotron with betatron injectors. Measuring of the amount and form of the current was carried out by means of an induction connection between the current in the chamber and the receiving coil near the chamber. A receiving- and registering apparatus with high reactivity was constructed. This made it possible to observe current modifications in the chamber during some revolutions of the particles. The main difficulties are described which had to be overcome in constructing this apparatus.

After a detailed description of the apparatus and the experiment the following conclusions were arrived at:

- 1.) The absolute amount of the circulating current in the chamber is determined at optimum conditions by the limiting charge which is bound by the stabilizing forces of the magnetic field. Therefore also the  $\gamma$ -bremsstrahlung is determined by the limiting charge.

Card 1/2

USSR/Nuclear Physics - Instruments and Installations.  
Methods of Measurement and Investigation

C-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 238

the electron admission. It is shown that the additional magnetic field, whose action can be compared with the effect of electric fields on the particle (Kerst hypothesis), as well as the field of the artificial space charge, can strongly increase the intensity of gamma radiation at small emission currents. Qualitative estimates, however, lead to the conclusion that the effect of induction compression, in accordance with the Kerst hypothesis, should be small compared with the Coulomb interaction in the normal operating mode of the betatron. It is also shown that, in general, similar artificial methods for increasing the intensity are ineffective. A hypothesis is proposed that only methods that permit a substantial change in the stabilizing forces of the magnetic field can lead to a considerable increase in the yield, since most betatrons operate in a mode close to the "limiting current"

Card 2/3

AKHMATOV, A.P.; BLINOV, P.I.; BOLOTIN, V.F.; BORODIN, A.V.;  
GAVRIN, P.P.; ZAVOYSKIY, Ye.K.; KOVAN, I.A.; OGANOV, M.N.;  
PATRUSHEV, B.I.; PISKAREV, Ye.V.; RUSANOV, V.D.; SMOLKIN,  
G.Ye.; STRIGANOV, A.R.; FRANK-KAMENETSKIY, D.A.; CHEREMNYKH,  
P.A.; CHIKIN, R.V.

[Magnetoacoustic resonance in a plasma] Magnito-zvukovoi  
rezonans v plazme. Moskva, In-t atomnoi energii, 1960. 23 p.  
(MIRA 17:2)

AKHMATOV, A.P.; BLINOV, P.I.; BOLOTIN, V.F.; BORODIN, A.V.; GAVRIN, P.P.;  
ZAVOYSKIY, Ye.K.; KOVAN, I.A.; OGANOV, M.N.; PATRUSHEV, B.I.;  
PISKAREV, Ye.V.; RUSANOV, V.D.; SMOLKIN, G.Ye.; STRIGANOV, A.R.;  
FRANK-KAMENETSKIY, D.A.; CHEREMNYKH, P.A.; CHIKIN, R.V.

Magnetoacoustic resonance in a plasma. Zhur. eksp. i teor. fiz.  
39 no. 3:536-544 S '60. (MIRA 13:10)

(Nuclear magnetic resonance)  
(Plasma (Ionized gases))

83757

5006 50/039/003/003/045  
200/3060

## 26/14/0

**AUTHORS:** Abramov, A. P., Blinov, P. I., Bolotin, V. P., ~~Bogoliubov~~,  
 L. V., Davydov, P. F., Gavrilov, Yu. Z., Jovan, S. S.,  
 Odintsov, M. S., Pitsulevich, G. S., Sizikov, Yu. S.,  
 Rubtsov, V. D., Sotkin, U. I., Stepanov, A. S.,  
 Frank-Lamantsev, D. A., Shereshevskiy, Yu. A., Sizikov, Yu. V.

## TITLE:

Magnetocoustic Resonance in the Plasma

PUBLICATI: Zhurnal eksperimental'noi teorii fiziki, 1960, u  
 Vol. 39, No. 3 (3), pp. 536-544

**TEXT:** The authors wanted to study the penetration of oscillations into the plasma taking place transversally to a static magnetic field. From the physical point of view, this process has a course similar to acoustic oscillations, with the difference that the amplitude pressure  $H^2/8\pi$ , and not the gas pressure,  $p$ , is effective here. (1) is written down as a resonance condition of shock type, where  $d$  is a dimensionless number characterizing the type of oscillations. So the strength of the

Card 1/4

static magnetic field,  $H$ , the density of the plasma,  $\rho$ , the cyclotron frequency, and  $R$  the radius of the plasma cylinder. The collisional is written down for the radial amplitude of the plasma motion velocity,  $v_r \approx H_0/B_0 \approx H/14\pi$  ( $H$  - strength of the magnetic alternating field,  $v_r$  - phase velocity of the magnetic field). The interaction of an electromagnetic high-frequency field  $E$  with a cold plasma was experimentally investigated in a cylinder in the presence of an initial quasistatic magnetic field  $H_0$ . Fig. 1 shows the scheme of the apparatus used for the experiments. In one such experimental series the alternating field had a frequency of 12.5 Mc/sec, while in another series the frequency was 50 Mc/sec. The plasma glow was recorded by means of an 03Y-19 (TIP-19) photocathode and an OK-171(OK-71) oscilloscope, while the penetration of high-frequency oscillations into the plasma and the radial amplitude distribution of the magnetic alternating field were studied with the aid of a magnetic probe. The experiments were conducted with hydrogen, helium, argon, and air at an initial pressure of

Card 2/4

$10^{-4} - 6 \cdot 10^{-3}$  torr. The oscillograms of Figs. 2,3 show that resonance phenomena appear in the range between 300 degrees and 5 kilohertz. Fig. 4 shows the effect of resonance on the spectral lines of hydrogen. There is a dependence of the amplitude  $H_r$  of the magnetic resonance field on the amplitude of the  $H$ -field. Fig. 5 shows the spatial distribution of the amplitude  $H_r$  of the resonance field in hydrogen and argon. As may be seen from Fig. 6, the resonance has a fine structure. This effect is being further investigated. A gas temperature of 1.5 ev was calculated from the Doppler broadening of the spectral line (Fig. 7) corresponding to  $D_{3,0}$ . Experimental data for  $H_r$  confirm the validity of equation (1). Experiments with argon frequencies above the hybrid frequency yielded no appreciable differences as compared with the effect observed with frequencies below the hybrid frequency. The authors assume that the appearing oscillations propagated obliquely, not perpendicularly to  $H$ . This was confirmed by measurement of the differential component of the magnetic field  $H_r$  (Fig. 9). The authors thank the Bureau of the Academy, for interest displayed in the work. There are 9 Figures and 4 References: 2 Soviet, 1 US, and 1 German.

Card 3/4

SUBMITTED: April 2, 1960

Card 4/4

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S/056/60/039/006/003/063  
B006/B056

2b.2311

AUTHORS: Rusanov, V. D., Patrushev, B. I., Kovan, I. A., Garkusha, V. I.,  
Frank-Kamenetskiy, D. A.

TITLE: Investigation of the Magneto-acoustic Resonance in a Plasma  
by Means of Two Electrical Probes

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 39, No. 6 (12), pp. 1497 - 1502

TEXT: This is a report on concentration measurements made on a cylindrical hydrogen plasma, which was located in a homogeneous quasistatic longitudinal magnetic field  $H_0$ , and a high-frequency magnetic field in the same direction. Two molybdenum wire probes were used to estimate the charged particle concentration; probing was done also with the 3-cm pulses of a klystron-generator. The experimental arrangement is shown in Fig. 1, the probe circuit diagram in Fig. 3. Fig. 5 is shown as an example of the oscilloscopes obtained (Figs. 4-9): the upper oscilloscopes show the probe currents of various pairs of probes, the lower ones show the signals of

Card 1/7

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Investigation of the Magneto-acoustic  
Resonance in a Plasma by Means of Two  
Electrical Probes

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the sound shf generator; I - probes on the walls, II - in the chamber axis.  
( $U_{\text{probe}} = 300 \text{ v}$ ,  $E = 6 \text{ kv}$ ,  $H_0 = 5.8 \text{ koe}$ ,  $p = 8 \cdot 10^{-4} \text{ mm Hg}$ ). The probe current has two maxima, viz. at  $H_0 = 650 \text{ oe}$  ( $n = 6 \cdot 10^{12} \text{ cm}^{-3}$ ) and  $H_0 = 1580 \text{ oe}$  ( $n = 5 \cdot 10^{12} \text{ cm}^{-3}$ ) ( $n$  - electron concentration). With a change of the quasistatic magnetic field, the amplitude of the alternating field was found to have two or three resonance maxima, interpreted as magneto-acoustic resonance. The resonance frequencies are near the geometrical mean from electronic and ionic cyclotron frequency ( $\omega_e$ ,  $\omega_i$ ). Numerically one obtains:

$$\omega^* = H_0 U_i \sqrt{4\pi \rho} R$$

$$\omega = \omega_i (\omega_e^2 + 1 + \frac{1}{4} \frac{\omega_e^2}{\omega_i^2} \frac{k_z^2}{k_r^2}) \left[ \sqrt{\omega_i^2 + 1 + \frac{\omega_e^2}{\omega_0^2}} \right]$$

	1st maximum	2nd maximum
$6.0 \cdot 10^7$	$3.1 \cdot 10^8$	
$7.3 \cdot 10^7$	$4 \cdot 10^8$	
$2.5 \cdot 10^7$	$6.5 \cdot 10^8$	

Card 2/7

88419

Investigation of the Magneto-acoustic  
Resonance in a Plasma by Means of Two  
Electrical Probes

S/056/60/039/006/003/063  
3006/3056

(The generator frequency was  $3.2 \cdot 10^8$ ).  $\omega^*$  is the circular frequency of the radial magneto-acoustic oscillations,  $\omega$ -the circular frequency of the longitudinal-radial magnetoacoustic oscillations; the other quantities are defined in Ref. 5. Summing up: Under magneto-acoustic resonance, ionization increases rapidly and considerably. The radial concentration distribution in the plasma is nearly uniform. The authors thank Ye. K. Zavoyskiy for his interest. There are 10 figures and 5 references: 4 Soviet and 1 US.

SUBMITTED: April 23, 1960

Card 3/7

"APPROVED FOR RELEASE: 08/25/2000

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3006/3056

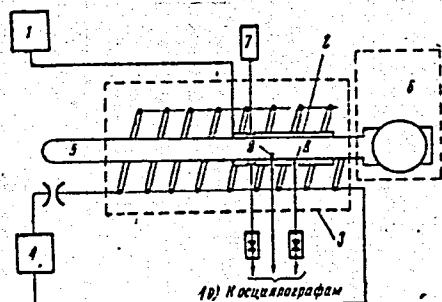


Fig. 1

Card 4/7

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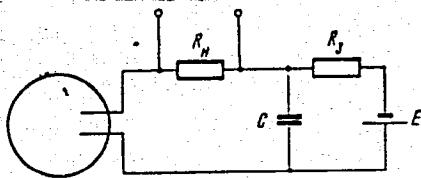


Рис. 3. Схема включения зондов

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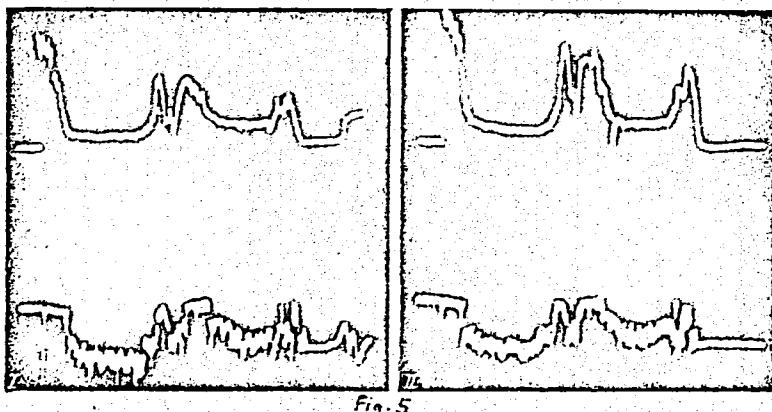
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